GRID CALCULATOR

MainActivity.java

package com.example.myapplication;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.TextView;  
  
public class MainActivity extends AppCompatActivity {  
  
 Button b1,b2,b3,b4,b5,b6,b7,b8,b9,b10,b11,b12,b13,b14,b15,b16;  
 TextView in,op;  
 char addition='+';  
 char subtraction='-';  
 char multiplication='\*';  
 char division='/';  
 char currentSymbol;  
 double firstValue = Double.*NaN*;  
 double secondValue;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 b1=(Button) findViewById(R.id.*b1*);  
 b2=(Button) findViewById(R.id.*b2*);  
 b3=(Button) findViewById(R.id.*b3*);  
 b4=(Button) findViewById(R.id.*b4*);  
 b5=(Button) findViewById(R.id.*b5*);  
 b6=(Button) findViewById(R.id.*b6*);  
 b7=(Button) findViewById(R.id.*b7*);  
 b8=(Button) findViewById(R.id.*b8*);  
 b9=(Button) findViewById(R.id.*b9*);  
 b10=(Button) findViewById(R.id.*b10*);  
 b11=(Button) findViewById(R.id.*b11*);  
 b12=(Button) findViewById(R.id.*b12*);  
 b13=(Button) findViewById(R.id.*b13*);  
 b14=(Button) findViewById(R.id.*b14*);  
 b15=(Button) findViewById(R.id.*b15*);  
 b16=(Button) findViewById(R.id.*b16*);  
 in=(TextView) findViewById(R.id.*t1*);  
 op=(TextView) findViewById(R.id.*t2*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 if (in.getText().length() > 0) {  
 CharSequence currentText = in.getText();  
 in.setText(currentText.subSequence(0, currentText.length() - 1));  
 } else {  
 firstValue = Double.*NaN*;  
 secondValue = Double.*NaN*;  
 in.setText("");  
 op.setText("");  
 }  
 }  
 });  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"0");  
 }  
 });  
 b3.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 allCalculations();  
 currentSymbol = division;  
 op.setText(firstValue+"/");  
 in.setText(null);  
 }  
 });  
 b4.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 allCalculations();  
 currentSymbol = multiplication;  
 op.setText(firstValue + "\*");  
 in.setText(null);  
 }  
 });  
 b5.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"7");  
 }  
 });  
 b6.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"8");  
 }  
 });  
 b7.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"9");  
 }  
 });  
 b8.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 allCalculations();  
 currentSymbol = subtraction;  
 op.setText(firstValue + "-");  
 in.setText(null);  
 }  
 });  
 b9.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"4");  
 }  
 });  
 b10.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"5");  
 }  
 });  
 b11.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"6");  
 }  
 });  
 b12.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 allCalculations();  
 currentSymbol = addition;  
 op.setText(firstValue + "+");  
 in.setText(null);  
 }  
 });  
 b13.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"1");}  
 });  
 b14.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"2");  
 }  
 });  
 b15.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 in.setText(in.getText()+"3");  
 }  
 });  
 b16.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 allCalculations();  
 op.setText(String.*valueOf*(firstValue));  
 firstValue=Double.*NaN*;  
 currentSymbol='0';  
 }  
 });  
 }  
  
 private void allCalculations() {  
 if (!Double.*isNaN*(firstValue)) {  
 secondValue = Double.*parseDouble*(in.getText().toString());  
 in.setText(null);  
 if (currentSymbol == addition)  
 firstValue = this.firstValue + secondValue;  
 else if (currentSymbol == subtraction)  
 firstValue = this.firstValue - secondValue;  
 else if (currentSymbol == multiplication)  
 firstValue = this.firstValue \* secondValue;  
 else if (currentSymbol == division)  
 firstValue = this.firstValue / secondValue;  
 } else {  
 try {  
 firstValue = Double.*parseDouble*(in.getText().toString());  
 } catch (Exception e) {  
 }  
 }  
 }  
}

activity\_main.xml

<?xml version="1.0" encoding="utf-8"?>  
<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <androidx.gridlayout.widget.GridLayout  
 android:id="@+id/gridLayout"  
 android:layout\_width="403dp"  
 android:layout\_height="244dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.157"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="1.0">  
  
 <Button  
 android:id="@+id/b16"  
 android:layout\_width="100dp"  
 android:layout\_height="wrap\_content"  
 android:text="="  
 android:textSize="20sp"  
 app:layout\_column="3"  
 app:layout\_row="3" />  
  
 <Button  
 android:id="@+id/b13"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="1"  
 android:textSize="24sp"  
 app:layout\_column="0"  
 app:layout\_row="3" />  
  
 <Button  
 android:id="@+id/b14"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="2"  
 android:textSize="24sp"  
 app:layout\_column="1"  
 app:layout\_row="3" />  
  
 <Button  
 android:id="@+id/b15"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="3"  
 android:textSize="24sp"  
 app:layout\_column="2"  
 app:layout\_row="3" />  
  
 <Button  
 android:id="@+id/b1"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="AC"  
 android:textSize="24sp"  
 android:textStyle="bold"  
 app:layout\_column="0"  
 app:layout\_row="0" />  
  
 <Button  
 android:id="@+id/b11"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="6"  
 android:textSize="24sp"  
 app:layout\_column="2"  
 app:layout\_row="2" />  
  
 <Button  
 android:id="@+id/b12"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="+"  
 android:textSize="24sp"  
 app:layout\_column="3"  
 app:layout\_row="2" />  
  
 <Button  
 android:id="@+id/b2"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="0"  
 android:textSize="24sp"  
 app:layout\_column="1"  
 app:layout\_row="0" />  
  
 <Button  
 android:id="@+id/b3"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="/"  
 android:textSize="24sp"  
 app:layout\_column="2"  
 app:layout\_row="0" />  
  
 <Button  
 android:id="@+id/b4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="\*"  
 android:textSize="24sp"  
 app:layout\_column="3"  
 app:layout\_row="0" />  
  
 <Button  
 android:id="@+id/b5"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="7"  
 android:textSize="24sp"  
 app:layout\_column="0"  
 app:layout\_row="1" />  
  
 <Button  
 android:id="@+id/b6"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="8"  
 android:textSize="24sp"  
 app:layout\_column="1"  
 app:layout\_row="1" />  
  
 <Button  
 android:id="@+id/b7"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="9"  
 android:textSize="24sp"  
 app:layout\_column="2"  
 app:layout\_row="1" />  
  
 <Button  
 android:id="@+id/b8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="-"  
 android:textSize="24sp"  
 app:layout\_column="3"  
 app:layout\_row="1" />  
  
 <Button  
 android:id="@+id/b9"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="4"  
 android:textSize="24sp"  
 app:layout\_column="0"  
 app:layout\_row="2" />  
  
 <Button  
 android:id="@+id/b10"  
 android:layout\_width="105dp"  
 android:layout\_height="61dp"  
 android:text="5"  
 android:textSize="24sp"  
 app:layout\_column="1"  
 app:layout\_row="2" />  
  
 </androidx.gridlayout.widget.GridLayout>  
  
 <TextView  
 android:id="@+id/t1"  
 android:layout\_width="243dp"  
 android:layout\_height="95dp"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.958"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.426" />  
  
 <TextView  
 android:id="@+id/t2"  
 android:layout\_width="243dp"  
 android:layout\_height="95dp"  
 android:textSize="34sp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.958"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.575" />  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="251dp"  
 android:layout\_height="63dp"  
 android:text="CALCULATOR"  
 android:textAlignment="center"  
 android:textSize="34sp"  
 android:textStyle="bold"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.531"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.067" />  
</androidx.constraintlayout.widget.ConstraintLayout>

OUTPUT:

